

POLYELECTROLYTE DISPENSING POLISHING PAD, PRODUCTION

THEREOF AND METHOD OF POLISHING A SUBSTRATE

Abstract of the Disclosure

5 A polyelectrolyte dispensing polishing pad, a process for
its production and a method of polishing, e.g., chemical
mechanical polishing (CMP), a substrate such as a semiconductor
wafer, are provided. The pad is usable for CMP planarization of
an oxide or metal layer on the wafer. The pad has a polishing
10 layer of erodible binder material containing uniformly
distributed therein both abrasive particles and a water soluble
ionizable electrolyte substance such as a polyelectrolyte, such
that during polishing the binder material incrementally erodes
and the abrasive particles and electrolyte substance
15 incrementally release into direct contact with the substrate.
The electrolyte substance inhibits CMP removal of silicon
nitride, e.g., as a stop layer, under an upper oxide or metal
layer, such that the upper layer is selectively polished and the
CMP stops on the stop layer leaving the latter intact.